



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Osamu ISAJI

Group Art Unit: 3662

Application No.: 10/621,617

Examiner: B. Andrea

Filed: July 18, 2003

Docket No.: 113202.01

For: RADAR APPARATUS

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the January 2, 2004 Office Action, reconsideration of the rejection and objections is respectfully requested in light of the following remarks.

Claims 1-22 are pending in this application. Reconsideration of the application in view of the following remarks is respectfully requested.

Applicant thanks the Examiner for the indication that claims 3-12 and 14-22 contain allowable subject matter.

I. Rejection Under §102(b)

Claims 1 and 2 stand rejected under 35 U.S.C. §102(b) over U.S. Patent 5,387,918 to Wiesbeck et al. ("Wiesbeck"). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, "a signal processing section for controlling the modulation signal generation section so as to give a modulation signal for detection changing among a plurality of predetermined signal levels and retained for a predetermined time for

each signal level to the high frequency generation section." An example of this feature is shown in Figs. 4(a), 4(b), 5(a) and 5(b) and is described in the specification at page 22, line 10 through page 24, line 4. As described at page 23, lines 15-18, "the modulation signal for detection chang[es] among a plurality of predetermined signal levels and retain[s] for a predetermined time for each signal level to the VCO 24, as shown in FIG. 4 (a), 5 (a)" (emphasis added).

Use of a modulation signal for detection with such characteristics, in combination with other features, results in a beat signal that may be analyzed by the signal processing signal to detect a target, as described with respect to Figs. 4(b) and 5(b). Further, as described at page 32, line 22 through page 33, line 4, "the time (t₁, t₂, t₃, ..., t_n) taken for holding the voltage level in a plurality of values in the range of V₁ to V₂ in the modulation signal for detection shown in FIGS. 4 (a) and 5 (b) [may be] changed in response to the distance to the target and the relative speed. Accordingly, frequency modulation characteristic detection can be optimized in response to the distance to the target and the relative speed and the detection accuracy can be enhanced." Further, as stated at page 15, lines 17-21, and at page 36, lines 18-22, by using beat signal processing and detection processing of the frequency modulation characteristic in such a manner, the whole configuration can be simplified and costs can be reduced.

The Office Action asserts on page 3, lines 5-9, that Wiesbeck discloses the above described feature at col. 3, lines 45-48 and 50-56. This passage refers to a "modulation signal." However, unlike Wiesbeck's modulation signal, Applicant's claimed modulation signal for detection is a result of the signal processing section controlling the modulation signal generation section and may controlled based upon processing performed by the signal processing section controlling the modulation signal generation section. Further, unlike Wiesbeck's modulation signal, Applicant's claimed modulation signal for detection is

provided as input to the recited high frequency generation section. It is the frequency modulation characteristics of the high frequency generation section (e.g., see Application Fig. 3) in response to the modulation signal for detection that determines the frequency modulation of the transmission signal. Therefore, the modulation signal for detection recited in the claims cannot be equated with the modulation signal described by Weisbeck, despite the contrary assertion by the Office Action.

Additionally, Wiesbeck discloses a transmission signal modulated by an algorithm-based frequency modulation signal. For example, at col. 3, lines 45-48 and 50-56, cited by the Office Action, Wiesbeck describes a fixed algorithm that generates a constantly changing transmission signal frequency. This is not the same as "a signal processing section for controlling the modulation signal generation section so as to give a modulation signal for detection changing among a plurality of predetermined signal levels and retained for a predetermined time for each signal level to the high frequency generation section," as recited by claim 1. Further, Applicant respectfully submits that the approach described by Wiesbeck results in greater complexity, higher production costs, less flexibility, and more limitations than may be achieved by a radar system that uses a modulation signal for detection of the feature described above.

Based upon the above, Applicants respectfully submit that Wiesbeck does not disclose, teach or suggest "a signal processing section for controlling the modulation signal generation section so as to give a modulation signal for detection changing among a plurality of predetermined signal levels and retained for a predetermined time for each signal level to the high frequency generation section," as recited by claim 1.

Accordingly, it is respectfully submitted that claim 1 is patentably distinguishable over the applied art. Claim 2 depends from independent claim 1 and is likewise patentably distinguishable over the applied art for at least its dependence on an allowable base claim, as

well as for additional features it recites. Accordingly, withdrawal of this rejection is respectfully requested.

II. Rejection Under §103(a)

The Office Action rejects claim 13 under 35 U.S.C. §103 as unpatentable over Wiesbeck in view of U.S. Patent 5,210,539 to Voyce.

Claim 13 depends from claim 1. Voyce fails to overcome the above-described deficiency of Wiesbeck with respect to independent claim 1. Therefore, the asserted combination of Wiesbeck and Voyce does not teach or suggest the combination of features recited in claim 1.

For at least these reasons, it is respectfully submitted that claim 13 is patentably distinguishable over the applied art for at least the reasons discussed above, as well as for additional features that claim 13 recites. Withdrawal of the rejection is respectfully requested.

III. Rejection Under §101

Claims 1-22 stand rejected under 35 U.S.C. §101 over U.S. Patent 6,597,308. Applicant respectfully notes the Examiner's rejection and requests that the Examiner allow the Applicant to resolve questions related to patentability under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) prior to addressing issues related to double patenting under 35 U.S.C. §101.

IV. Conclusion

Should the Examiner have any questions regarding the foregoing, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: July 2, 2004

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